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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/715,467

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Luliang Jiang

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32294

7590

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EXAMINER

SAEED, USMAAN

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/715,467	<b>Applicant(s)</b> JIANG, LULIANG	
	<b>Examiner</b> USMAAN SAEED	<b>Art Unit</b> 2166	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 23 March 2009.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 3/23/2009 has been entered.

### ***Claim Rejections - 35 USC § 101***

2. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1-19 are rejected under 35 U.S.C. 101 as being directed to non-statutory subject matter. The language of these claims raises a question as to whether the claims are directed merely to an environment or machine which would result in a practical application producing a concrete useful, and tangible result to form the basis of statutory subject matter under 35 U.S.C. 101.

Claims 10-18 are rejected because the method claims do not qualify as a statutory process. These claims are not statutory because a process must be tied to another statutory class. Thus to qualify as a statutory process, the claims should positively recite the other statutory class to which it is tied, for example by identifying the apparatus that accomplished the method steps.

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Claim 19 is rejected because the means recited in this claim appears to be software; therefore this claim is a system of software per se failing to fall within one of the statutory categories of invention.

Claims 1-9 are rejected because these claims recite an apparatus or a system but they not use any hardware (i.e. processor, memory) for the systems functionality to be realized.

To expedite a complete examination of the instant application the claims rejected under U.S.C. 101 (nonstatutory) above are further rejected as set forth below in anticipation of application amending these claims to place them within the four categories of invention.

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to

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consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-20 are rejected under 35 U.S.C 103(a) as being unpatentable over **Hovell et al. (Hovell hereinafter)** (International Publication Number WO 02/073933) in view of **Ananda et al. (Ananda hereinafter)** (U.S. PG Pub No. 2004/0107287).

With respect to claim 1, **Hovell** teaches **an apparatus comprising:**

**“a resolver configured to perform name resolving”** as means for assigning an alias to a target network device in the first network, the alias being compatible with the communication protocol of the second network (**Hovell** Page 2, Lines 12-14) (**Hovell** Page 5, Lines 18-31).

**“a first connector configured to provide a first direct connection to a first network using a first network protocol”** as providing communication between a network device in a first network and a network device in a second network, where the first network operates in accordance with a first communication protocol and the second network operates in accordance with a second communication protocol (**Hovell** Page 2, Lines 8-11) (**Hovell** Figure 1).

**“a second connector configured to provide a second direct connection to a second network using a second network protocol”** as providing communication between a network device in a first network and a network device in a second network, where the first network operates in accordance with a first communication protocol and

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the second network operates in accordance with a second communication protocol  
(**Hovell** Page 2, Lines 8-11) (**Hovell** Figure 1).

**“wherein resolver in the first network forwards a name resolving request to a domain name service server in the second network”** as (**Hovell** Figure 1).

Examiner interprets the DNS 104 as name resolving unit in first network and DNS 106 as name resolving unit in the second network.

**“a translator configured to perform address translation between the first network and the second network”** as means for translating said assigned alias to an address for the target network device, said translated address being compatible with the communication protocol of the first network (**Hovell** Page 2, Lines 15-17).

**“wherein the resolver and the translator are configured to co-operate in order to translate addresses upon performing name resolving”** as said assigned alias corresponds to an address of the second means, such that, when a network device in the second network sends one or more communication(s) using an address comprising the assigned alias, the or each communication is routed to the second means, whereupon the second means translates the alias into the address of the target network device in the first network and sends the communication(s) into the first network (**Hovell** Page 2, Lines 19-24).

**Hovell** teaches the limitations of claim 1 as noted above but does not explicitly disclose **“wherein the resolver in the first network forwards a name resolving request to a domain name service server in the second network, the name resolving request is sent directly from the resolver in the first network to the**

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**second network without using a network address translator server configured to process packets other than the name resolving request sent to the second network” and “the translator, separate from the network address translator server, performing address translation on the name resolving request sent directly to the second network without using the network address translator sever.”**

However, **Ananda** discloses, **“wherein the resolver in the first network forwards a name resolving request to a domain name service server in the second network, the name resolving request is sent directly from the resolver in the first network to the second network without using a network address translator server configured to process packets other than the name resolving request sent to the second network and the translator, separate from the network address translator server, performing address translation on the name resolving request sent directly to the second network without using the network address translator sever”** as the DNS server 125, will necessarily have to be changed from IPv4 to dual-stack hosts that operate on both IPv4 and IPv6, to enable existing IPv4 or new IPv6 applications on the hosts and servers, to run without modification (**Ananda** Paragraphs 0063, 0071, 0079, 0080, 0083-0085, and 0130).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of the cited references because **Ananda’s** teaching would have allowed **Hovell** to provide a transparent communication

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between IPv4 and IPv6 networks by using dual stack DNS, which provides direct connections between two networks using different protocols.

Claims 10, 19 and 20 are essentially the same as claim 1 except claims 10 and 20 set forth the claimed invention as a method and a computer program and are rejected for the same reasons as applied hereinabove.

With respect to claim 2, **Hovell** teaches “**the apparatus according to claim 1, wherein the apparatus comprises a domain name service server and wherein the translator performs address translation on a response to the name resolving request sent to the second network**” as such processes include the DNS application level gateway (**Hovell** Page 5, Line 26 and figure 1).

Claim 11 is essentially the same as claim 2 except it sets forth the claimed invention as a method and is rejected for the same reasons as applied hereinabove.

With respect to claim 3, **Hovell** teaches “**the apparatus according to claim 1, wherein the translator is configured to select a particular network address translating element to be used for a connection between a first host in the first network and a second host in the second network**” as the translator 101 then looks up 306 the mapping between assigned Ipv4 address and Ipv6 address to retrieve the Ipv6 address of host A, and make this 308 the destination address of the packet. For



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the packets to be routed from the translator 101 to host A, the translator 101 has to modify the source address of the packet, which is the Ipv4 address of node C, into Ipv6 format. This involves expanding 310 the Ipv4 address of host C with a prefix that is representative of the translator 101 (**Hovell** Page 6, Lines 16-22).

**“wherein the translator is configured to add network address translating element information to the resolved address”** as when an Ipv4 packet arrives at the translator 101 a 96 bit prefix, which is indicative of the translator 101, is added to the source address of the packet (32 bits) to make an Ipv6 address (128 bits) (**Hovell** Page 6, Lines 25-27).

Claim 12 is essentially the same as claim 3 except it sets forth the claimed invention as a method and is rejected for the same reasons as applied hereinabove.

With respect to claim 4, **Hovell** teaches **“the apparatus according to claim 3, wherein the network address translating element information is an address prefix”** as an IPv4 source address 10.10.10.10 arriving at the translator 101 could be given the prefix 2001:618:1:2:: so that the source IPv4 host has the following address in the IPv6 world 2001:618:1:2::10.10.10.10. An IPv6 packet sent to this address would go to translator 101 because the prefix 2001:628:1:2:: routes to the translator 101 (**Hovell** Page 6, Lines 28-32).

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Claim 13 is essentially the same as claim 4 except it sets forth the claimed invention as a method and is rejected for the same reasons as applied hereinabove.

With respect to claim 5, **Hovell** teaches **“the apparatus according to claim 3, wherein the translator is configured to select a network address translating element based on information regarding the load on the network address translating element”** as the selecting means is operable to monitor the device characteristics, so that selection of a device is based on current device performance. Monitored device characteristics include at least one of operational status of device, loading on device, and/or aliases available to the device (**Hovell** Page 3, Lines 8-11).

Claim 14 is essentially the same as claim 5 except it sets forth the claimed invention as a method and is rejected for the same reasons as applied hereinabove.

With respect to claim 6, **Hovell** teaches **“the apparatus according to claim 1, wherein the first protocol is internet protocol version 6, and the second protocol is internet protocol version 4”** as a device so identified thereafter deal with all subsequent communication between hosts in IPv6 and IPv4, and the subsequent communication is therefore independent of the controller operations (**Hovell** Page 7, Lines 26-27).

Claim 15 is essentially the same as claim 6 except it sets forth the claimed invention as a method and is rejected for the same reasons as applied hereinabove.

With respect to claim 7, **Hovell** teaches “**the apparatus according to claim 1, wherein the resolver of the apparatus is configured to send a name resolve request to a name resolving element located in the second network**” as means for assigning an alias to a target network device in the first network, the alias being compatible with the communication protocol of the second network (**Hovell** Page 2, Lines 12-14). Assigned alias corresponds to an address of the second means, such that, when a network device in the second network sends one or more communication(s) using an address comprising the assigned alias, the or each communication is routed to the second means, whereupon the second means translates the alias into the address of the target network device in the first network and sends the communication(s) into the first network (**Hovell** Page 2, Lines 19-24).

Claim 8 is essentially the same as claims 1, 3 and 5, which sets forth the claimed invention as a system and is rejected for the same reasons as applied hereinabove.

With respect to claim 9, **Hovell** teaches “**the system according to claim 8, wherein the load information is sent using a simple network management protocol**” as the controller 401 can derive the loading on a device 403a by issuing

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simple network management protocol (SNMP) messages to a Management Information Base (MIB) that is maintained on the router (**Hovell** Page 9, Lines 17-19).

Claims 16 & 17 are essentially the same as claim 8 & 9 except they set forth the claimed invention as a method and are rejected for the same reasons as applied hereinabove.

With respect to claim 18, **Hovell** teaches “**the method according to claim 10, wherein the processing a name resolve request processing comprises: forwarding a name resolve request from the first network directly to a network name resolving element in the second network; and receiving an address from the name resolving element in the second network**” as means for assigning an alias to a target network device in the first network, the alias being compatible with the communication protocol of the second network (**Hovell** Page 2, Lines 12-14). Assigned alias corresponds to an address of the second means, such that, when a network device in the second network sends one or more communication(s) using an address comprising the assigned alias, the or each communication is routed to the second means, whereupon the second means translates the alias into the address of the target network device in the first network and sends the communication(s) into the first network (**Hovell** Page 2, Lines 19-24).

### ***Response to Arguments***

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4. Applicant's arguments filed 03/23/2009 have been fully considered but they are not persuasive.

In these arguments applicant relies on the amended claims and not the original ones.

Applicant argues that **Hovell and Ananda** do not teach or suggest “**wherein the resolver in the first network forwards a name resolving request to a domain name service server in the second network, the name resolving request is sent directly from the resolver in the first network to the second network without using a network address translator server configured to process packets other than the name resolving request sent to the second network and the translator, separate from the network address translator server, performing address translation on the name resolving request sent directly to the second network without using the network address translator sever.**”

In response to the preceding arguments **Ananda** discloses, “**wherein the resolver in the first network forwards a name resolving request to a domain name service server in the second network, the name resolving request is sent directly from the resolver in the first network to the second network without using a network address translator server configured to process packets other than the name resolving request sent to the second network and the translator, separate from the network address translator server, performing address translation on the name resolving request sent directly to the second network without using the**

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**network address translator sever”** as the DNS server 125, will necessarily have to be changed from IPv4 to dual-stack hosts that operate on both IPv4 and IPv6, to enable existing IPv4 or new IPv6 applications on the hosts and servers, to run without modification (**Ananda** Paragraphs 0063, 0071, 0079, 0080, 0083-0085, and 0130).

Examiner interprets the gateway multi-protocol subnet 225, which contains dual stack DNS as enhanced DNS of the applicant because the gateway multi-protocol subnet 225 provides the direct connections to IPv4 and IPv6 networks.

Applicant also states is his description that the DNS server is dual-stack, which means that it has a direct link connection to a first network using a first protocol (e.g., an IPv6 network) and a direct link connection to a second network (e.g., an IPv4 network) using a second protocol different from the first protocol (paragraph 0026). Therefore, Ananda's gateway multi-protocol subnet 225, which contains dual stack DNS would provide direct connections to IPv4 and IPv6 networks.

Further, Ananda teaches that the use of a the gateway multi-protocol subnet 225, which contains dual stack DNS, does not require any network address translation—protocol translation (NAT-PT). Ananda is using the gateway multi-protocol subnet 225, which contains dual stack DNS to provide end -to-end communication without using NAT-PT because NAT's breaks and hampers the end-to-end communications as discussed by Ananda's background. Examiner interprets the NAT-PT as the network address translator server and use of the gateway multi-protocol subnet 225, which contains dual stack DNS does not require these NAT's.

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Applicant further argues that there is no suggestion that Ananda's DNS can be configured to process name resolver requests between two networks having different protocols. In response examiner respectfully submits that Hovell teaches (Page 2, Lines 24, page 6, Lines 19-32). These lines teach requests between two networks having different protocols. Hovell uses a separate network translator NAT-PT. But on the other hand Ananda does not teach a use of separate network translator NAT-PT. Therefore the combination of Hovell and Ananda teaches the claimed invention as a whole.

Claims must be given the broadest reasonable interpretation during examination and limitations appearing in the specification but not recited in the claim are not read into the claim (See M.P.E.P. 2111 [R-I]).

### ***Contact Information***

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to USMAAN SAEED whose telephone number is (571)272-4046. The examiner can normally be reached on M-F 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hosain Alam can be reached on (571)272-3978. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Usmaan Saeed/  
Examiner, Art Unit 2166  
April 20, 2009

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